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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,248	04/13/2004	John D. Wilkinson	03137.000201.1	3573
5514	7590	01/06/2005		
FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112				
			EXAMINER DOERRLER, WILLIAM CHARLES	
			ART UNIT 3744	PAPER NUMBER

DATE MAILED: 01/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/823,248	Applicant(s) WILKINSON ET AL. 	
	Examiner William C Doerfler	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-98 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-98 are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____  | 6) <input type="checkbox"/> Other: ____                                     |

***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-30 and 79-90, drawn to processes for separating and liquefying a natural gas stream, classified in class 62, subclass 620.
- II. Claims 31-78 and 91-98, drawn to an apparatus for separating natural gas with an automatic control system, classified in class 62, subclass 628.

The inventions are distinct, each from the other because of the following reasons:

Inventions of group I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case none of the process claims require a control system to control the functioning of the distillation column.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

This application contains claims directed to the following patentably distinct species of the claimed invention: Each species contains a process and an apparatus claim- only one will be examined depending on the election above. I) Claims 1 or 31 which claim a distillation column having one input for an expanded feed: II) Claims 2 or

32 which claim a distillation column having a gas inlet and a liquid inlet for the feed stream: III) Claims 3 or 33 claiming a distillation column with two inlets for a gaseous feed stream: IV) Claims 4 or 34 claiming a distillation column having a condensed feedstream as well as an expanded gas feedstream and an expanded liquid feedstream: V) Claims 5 or 35 claiming a distillation column which has the feed stream separated into a vapor stream, a liquid stream and a combined stream: VI) Claims 6 or 36 claiming a vapor feedstream which is separated into two streams with one being condensed and the other expanded, with both streams fed to the column: VII) claims 7 or 37 which claim a stream which is separated into a liquid and a gas with the gas stream further separated into a stream which is condensed and feeding all three streams into a distillation column: VIII) Claims 8 or 38 claiming separating a feedstream into a gas and liquid, separating the gas, expanding one of gas streams and forming a combined stream with the second gas stream and the liquid stream, condensing the combined stream and feeding the combined stream and the gas stream into a distillation column: IX) Claims 9 or 39 claiming separating a feedstream into a gas and a vapor, feeding the liquid to a distillation column and combining the gas from the separated feedstream and the gas from the distillation column: X) Claims 10 or 40 claiming separating the feedstream into a first gas and first liquid, separating the first vapor stream into a second vapor and a second gas stream, feeding the liquid streams to a distillation column and combining the gas from the column with the second vapor stream to produce the product stream: XI) claims 11 or 41 claiming directing the feedstream to a contact device to produce a first liquid and a first vapor, feeding the

liquid to a distillation column and using part of the vapor from the column after condensation, in the contact device: XII) claims 12 or 42 claiming separating the feed into a first liquid and first vapor, feeding the vapor to a contact device, and feeding the liquid from the contact device and the first liquid to a distillation column and condensing a portion of the vapor from the column for return to the contact device: XIII) Claims 13 or 43 claiming feeding the feedstream to a contacting device to produce a first liquid and first vapor, feeding the first liquid to a distillation column, cooling and separating the vapor from the column into a second liquid and second vapor, feeding the second liquid to the contacting device and combining the first and second vapor stream into a product stream: XIV) claims 14 or 44 claiming separating a feed into a first liquid and first vapor, feeding the first vapor to a contacting device to form a second vapor and second liquid, feeding both liquid streams into a distillation column, cooling and separating the gas from the column into a third liquid and third vapor and using the combined second and third vapor as the product stream: XV) claims 15 or 45 claiming separating a feed into a liquid and vapor in a contacting device, condensing the vapor as a product stream, feeding the liquid to a distillation column and feeding a portion of the vapor from the column to the contacting device after it has been condensed: XVI) Claims 16 or 46 which claim separating a feed into a vapor and liquid, feeding the vapor to a contacting device, heating the liquid from the contacting device and feeding it and the liquid from the first separation into a distillation column, using the vapor from the column as a product: XVII) Claims 17 or 47 which claim directing the feed to a contacting device to form a first liquid and a first vapor, directing the first liquid into a distillation column,

cooling and separating the vapor produced in the column to form a second vapor and a second liquid, feeding the second liquid to the column a contacting device and combining the first and second vapor to form a product stream to be cooled: XVIII) Claims 18 or 48 claiming separating a feed into a first liquid and a first vapor, feeding the first vapor into a contacting device to form a second vapor and a second liquid, heating the second liquid and expanding the first liquid and feeding both into a distillation column, cooling and separating the gas from the column into a third vapor and a third liquid, forming a cooled product stream from the second and third vapor streams: XIX) claim 49 (which, like the remaining groups, has no method equivalent, since they were elected in the parent case) which claims an apparatus feeding a stream into a distillation column pulling a fluid from a central portion of the column and cooling and separating it and using the gas from the separation and the gas from the top of the column to form a product stream to be cooled; XX) Claim 50 which claims an apparatus which separates a feedstream into a liquid and a gas which are then expanded and fed to a central portion of a distillation column, extracting a vapor from a central portion of the column and cooling and separating it and feeding the vapor derived therefrom and the vapor from the top of the column to a cooler to provide cooled product: XXI) claims 51 which claims an apparatus for cooling and expanding a feed stream which is fed mid-column to a distillation column, extracting a gas from below the feed level, cooling and separating the gas to provide a liquid which is fed back to the level that the gas was derived from and a gas which is combined with the gas from the top of the column to provide the product: XXII) Claim 52 which claims an apparatus for cooling and

separating a feedstream into a first vapor and first liquid which are fed mid column to a distillation column, withdrawing a vapor stream from the column and cooling a separating it to form a second vapor and a second liquid, feeding the second liquid back to the column at the level that the vapor was removed, and combining the second vapor with vapor removed from the top of the column to form a product stream; XXIII) claim 53 which claims an apparatus feeding a stream to a central portion of a column, deriving gas product from the column and deriving liquid from the column which is heated and fed back to the column at a level below the level that the vapor is derived from: XXIV) claim 54 which claims an apparatus deriving a vapor from a central portion of a distillation column, expanding and cooling the vapor to form a product stream which is combined with product from the top of the column and a liquid stream which is delivered back to the column, withdrawing a liquid feed from the column, heating the liquid and returning it to a level below the level from which the vapor was removed: XXV) Claim 55 which claims an apparatus withdrawing a vapor from a distillation column and cooling and separating stream into a product vapor stream and a liquid stream which is fed back to the column in the vicinity from which the vapor was removed, withdrawing a liquid stream above where the vapor stream is derived, heating the liquid stream and returning it to the column below where the vapor stream is derived and: XXVI) Claim 56 which claims an apparatus for separating a stream into gas and liquid portions, expanding both streams and feeding them to a distillation column, withdrawing a vapor from the distillation column and cooling and separating stream into a product vapor stream and a liquid stream which is fed back to the column in the vicinity from which the

vapor was removed, withdrawing a liquid stream above where the vapor stream is derived, heating the liquid stream and returning it to the column below where the vapor is derived. The dependent claims follow the independent claims from which depend.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 57 is generic to all of the apparatus claims. Claim 58 is generic to claims 32,44,35,37,38,50,52 and 56. Dependent claims, including multiple dependent claims will follow elected independent claims from which they depend.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the

case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.


Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C Doerrler whose telephone number is (571) 272-4807. The examiner can normally be reached on Monday-Friday 6:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Denise Esquivel can be reached on (571) 272-4808. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
William C Doerrler  
Primary Examiner  
Art Unit 3744

WCD